Comments on Security Sublayer in IEEE 802.16j-06/017r1

Abstract
This document is a proposal for some comments on Security Sublayer in IEEE 802.16j-06/017r1

Purpose:
This document is provided in response for Call for Contributions IEEE 802.16j Relay Task Group on 2006-09-08

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Outline

- The first TOC on “Security Sublayer”
- The second TOC on “Security Sublayer”
- Our opinions
Comments on Security sublayer(1-1)

7 Security Sublayer
   Enhanced security features will be required to support multi-hop connections via relay stations.

7.1 Architecture
   7.1.2 Key management protocol
      Insert RS key management at end of this subclause.

7.6 Certificate profile
   Insert a subclause at end of 7.6.1.4 to describe RS attributes.
   7.6.1.4.4 RS certificate
      This section discussed RS attribute to support identity.
Comments on Security sublayer(1-2)

7.10 PKM Version 3
   7.10.1 Authentication protocol
      7.10.1.1 RSA authentication
         RSA authentication that support RS
      7.10.1.2 EAP authentication
         EAP authentication that support RS

7.10.2 Key Usage
   This section discusses Keys that used in RS
   7.10.2.1 Derivation of Keys used in PKMv3
   7.10.2.2 Key derivation function in PKMv3
      This section discusses keys and encryption algorithm in RS that will be used
      authentication when Relay exist.

7.10.3 Message
   Insert messages used in the RS in the Key Request, Key Reply and Key Update Command
   message.
Comments on Security sublayer(2-1)

7 Security Sublayer

Enhanced security features will be required to support multi-hop connections via relay stations.

7.1 Architecture

7.1.2 Key management protocol

*Insert RS key management at end of this subclause.*

7.2 PKM protocol

7.2.2 PKM Version 2

7.2.2.2 Key derivation

7.2.2.2.2 EAP authentication

*Insert EAP authentication that support RS*

7.2.3 Security capabilities

*Insert some context for BS can select from cryptographic suites of RSs.*
7.3 Key Usage
   7.3.3 RS key usage
      This section discusses Keys that used in RS

7.5 Cryptographic methods
   7.5.4 Derivation of TEKs, KEKs, and message authentication keys
      7.5.4.7 Key derivation function for RS authentication
         This section discusses keys and encryption algorithm in RS that will be used authentication when Relay exist.

7.6 Certificate profile
   7.6.1 Certificate format
      7.6.1.4 tbsCertificate.issuer and tbsCertificate.subject
         7.6.1.4.4 RS certificate
            This section discussed RS attribute to support RS identity attributes.
Comments on Security sublayer(2-3)

7.8 PKMv2

7.8.2 mutual authentication and AK exchange overview

7.8.2.1 BS and SS RSA mutual authentication and AK exchange overview

(Change 7.8.2 in legacy standard to 7.8.2.1)

7.8.2.2 BS, RS and SS RSA mutual authentication and AK exchange overview

This section discusses BS, RS and SS RSA mutual authentication method to support security communication.

7.9 Optional multicast and broadcast rekeying algorithm (MBRA)

7.9.2 Message

Insert messages used in the RS in the Key Request, Key Reply and Key Update Command message.
Our opinions

- The first: modify legacy standard less, new contents are more centralized.
- The second: keep legacy standard structure as possible as it can.
- The first is better.
Thanks!